Mobile Banking Adoption: A Qualitative Approach towards the Assessment of TAM Model in an Emerging Economy

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ABSTRACT

It is an era of information technology and the use of modern and sophisticated machines and tools are common in every sphere of life. The banking sector of the economy is also affected with the advent of modern technology. The mechanism to provide financial services to the public via mobile phone is becoming popular in developing countries. The use of mobile for banking purpose to provide service to the customers at their fingertips is key phenomenon in the banking sector.

Objective: This paper provides details of mobile banking in emerging economy of Pakistan, identifies the customers’ attitude towards mobile banking and answers the question of what is the present scenario of mobile banking in Pakistan?

Methodology: it is a descriptive study by the nature. Survey forms have been distributed among the businessmen employees students in the city of Peshawar to collect data from them about the mobile banking. Personal interview were also conducted from the people who have some idea about the mobile banking. Statistically and analytical methods and tools were used to analysis the collected data. Critically Judgment method is also use for the analysis of the qualitative data.

Keywords: TAM model, Mobile banking, emerging economy, banking sector, Financial services, mobile marketing

INTRODUCTION

The new technology has brought revaluation in all walks of life. Transformation is taking place in every walks of life and the traditional methods and procedures of doing work is now completely replacing by new and modern sophisticated tools and equipment. Present century is the century of technological revolution and every sector of the economy are effected by technology in one way or other way. It is an era of information technology and modern machines have changed every aspect of life. Now-a-days there is no any area in our lives, which has not been effected by the use of modern technology. There is a radical transformation in the banking sector like all other sector of the economy due to modern and sophisticated machines and equipment. The success of a bank mostly depends on the customers if the customers are satisfied then they will prefer to be in dealing with the bank and if they are not satisfy then definitely they will switch off their dealing with the banks and will establish relationship with the banks who can provide better services than the previous one. Provision of good services make a customer loyal with the bank and not only he himself continue relationship with the bank but motivate others also to be the account holder of the bank.
The cost of serving one new customer is five to six times more than serving loyal customers (Ndubisi, 2003; Rosenberg and Czepiel, 1983). The banks which are modernized and adopting modern technology in their operation are more popular and profitable as compare to those which depends on traditional ways (Chung et al.2009).

Banking sector plays a key role in the economic development of a country. The present century revolution in information technology has drastically affected the financial sector. The queuing of customers for services in a traditional brick-and mortar model is no more applicable in the present banks. The terms of e-banking or virtual banking are commonly use in banking sector which means the use of electronic channels by the customers for dealing with the banks. Virtual banking can be discussed under four different categories. (a) ATM (b) Internet banking (c) telephone banking (d) Mobile banking. (Wendy et al.2005).

**ATM**

ATM stands for automatic teller machine it is an electronic banking outlet that provides facility to the account holder to perform transaction without going to the branch or representative of the bank .ATM is consider the first virtual bank in the history of banking ((Kass, 1994)

**Internet Banking**

The concept of www has changed every aspect of our lives such as education communication business etc, is highly affected by the internet. The bank has created their web pages and the account holder enters the bank web by using his id and password and does transaction with in no time.

**Telephone banking**

It is also a novel way of performing banking activities from the home or any other place where you have the facility of phone. Every modern bank has provided a universal number which is attached the CRM system of the bank. The account holders call the number and follow the instructions and perform the transaction of his choice on phone.( Sundarraj, R. P., and Judy Wu 2006)

**Mobile banking**

The revaluation in the mobile technology also brings changes in operation ways and procedures of banking. In the ATM banking it was the flaw that you cannot find the ATM outlet everywhere. Internet banking requires presence of personal computer and net connection for operation of banking activities so the best option and latest technology is the use of mobile for banking activities and you can do your banking activities everywhere any time ,( Cracknell, 2004). Mobile banking is the use of smart phone or other cellular devices to perform transactions anywhere any time.

**MODEL OF MOBILE BANKING**

**Bank Focused Model**

In this model the traditional bank provide non-traditional low cost channel of dealing with its existence account holders. The issuance of ATM card facility to its customers by the bank through which the customer can make banking transactions from any outlet specified by his
bank. Similarly providing banking facility from the by using the net or by phone or mobile are the examples bank focused model.

**Bank-led Model**

when the bank provides financial services to its customers through agents then this is called bank led model. The agents may be a telecom company chain store or any other retailer who has a huge network of its outlet. The account relationship in this model rests with the bank. The establishment of relationship between the bank and the agent may be through correspondents or by with the creation of JV between them.

**Non-Bank led Model**

Non –bank model emerges when the bank itself does not come on the screen and all the banking related activities are performed by the Telecom Company. The bank is only work as custodian of the surplus funds.

**INTERNATIONAL SCENE**

It was 1967 when in the history of banking a lady withdraws cash from her account with the cash point machine in London. Since that the banks are in struggle to provide more and more easy convenient and simple methods of transactions to their customers. The ATM card system was introduced by the New York chemical bank in 1969, in the start it was only use for dispense of cash to the customers, but with the passage of time now ATM provides full suite of financial transactions then in the mid of 1990 the concept of internet banking was introduced by the banks and this enable the customers to do the transactions from the home with his personal computer and internet connection. Then the telephone banking came in to existence and the customers started doing their banking transactions via phone by sitting in their homes or offices. The latest development in the banking sector is the use of mobile for banking transactions. One can do transactions anywhere any time if he has mobile.

**NATIONAL SCENE**

State bank of Pakistan is the central bank of the country which controls all the banking system of the country and issue rules and regulations for the operation of the banks in the country. In 2008 the state bank of Pakistan issued rules and regulation for the operation of mobile banking in Pakistan which was amended and update on 22 June 2011.

The state bank of Pakistan has allowed only the bank led model to be implemented by the bank in different ways. This model can be implemented by creating JV with the telecom company or using the service of some agents. Tameer Micro Finance was the first bank in the history of Pakistan when it started its branchless banking service with the Telenor by introducing the Easy Paisa on 14 October 2009 after that many other banks also join the race of mobile banking adoption and United Bank Limited started branchless banking with the service name of Omni, Timepay was launched by the Askari Bank Limited with the Zong, Mobi- cash is introduced by Waseela Microfinance Bank Limited with the partnership of Mobinlink. Muslim Commercial bank provides mobile banking service to the customers with the name of MCB-Lite. Allied Bank of Pakistan has started mobile banking services with the name of Alley’s mobile banking services with very nominal charges. (State Bank of Pakistan Annual Report 2011-2012)
FUNCTIONS OF MOBILE BANKING

| Account Information | • Checking of account history  
|                     | • Provision of mini transaction statements  
|                     | • Alerts on debiting or crediting of account  
|                     | • Information about loan statements  
|                     | • Mutual fund/equity statement  
|                     | • Insurance policy management  
| Investment          | • Alerts on shares and securities prices  
|                     | • Real time stock quotes  
|                     | • Portfolio management services  
| Payment and Transfer| • Micro payment handling  
|                     | • National and international fund transfer  
|                     | • Mobile recharging  
|                     | • Commercial payment processing  
|                     | • Utilities bill payments  
| Support             | • Debit and credit card request  
|                     | • Cheque book request  
|                     | • Exchange of data and email  

The use of technology in mobile banking

| 1. SMS (Short Messaging Service) | 2. Standalone Mobile Application Clients  
| 3. IVR (Interactive Voice Response) | 4. WAP (Wireless Access Protocol)  

Source: http://rits.infogile.com

MS (Short messaging Service)

SMS is the type of mobile banking in which the bank provides information to the customer by sending a short message to his or her registered mobile with the bank. The operation of short messaging banking service are two types one is called Push while the other is called Pull.

Pull SMS

Bank has provided different codes to its customers to send by SMS to obtain different type of information. When a customer wants to get some information about some the features of some services or he needs other info related to his or her account then he sends the particular service code to a particular no provided by then bank and then the bank reply by SMS with the required information this type of SMS banking is called Pull SMS.

Push SMS

This is initiated by the bank when there are some activities in the account of the customer then they receive a notification about this activity to the customer and this type of SMS Service is called Push SMS. Sending of one time password (OTP) is also an example of push SMS. When the customer enter to the mobile banking interface via mobile or internet then the bank send a password to the customer mobile to enter in his or her account. Without (OTP)
the customer cannot do any activity in his account. The OTP is introduced by the bank to secure the money of the customer and minimize the chances of cyber fraud.

**Standalone Mobile Application Clients**

Standalone mobile applications are considered the most suitable and safe for the complex banking transaction such as trading of securities shares and bonds. The applications can be adjusted according to the interface of the user supported by mobile. Mobile application client should be installed on the client device before the use and for the installation the mobile device should be supported by development environments like J2ME or BREW. J2ME is becoming popular and a symbol of standard to deploy mobile applications and requires the mobile phone to support Java.

**IVR (Interactive Voice Response)**

Interactive voice response is a service of mobile banking in which the bank proves a unique no to its customers. While doing some activity on his or her account the customer calls to that specific no and then a recorded voice greeting the account holder and then follow the instructions of the recorded voice and press the required button for getting the needed services.

**WAP – Wireless Access Protocol**

In this type of mobile banking the bank keep WAP Sites and the customer use the same by accessing through a WAP compatible browser from their mobile phone. WAP is architecture for content delivery over wireless networks. WAP browsers implementation is done by small mobile devices for example cell phone, pagers and PDAs.

**LITERATURE REVIEW**

Brown et al. (2003) have used the innovation diffusion theory (IDT) to know the responsible factors of mobile banking adoption in South Africa and they concluded that consumer banking needs relative benefits, trial periods, along with perceived risk, have a major negative effect on the adoption of M-Banking.

Suoranta and Mattila (2004) conducted a research on the adoption behaviour of mobile banking in Finland and he concluded that attributes related to innovation diffusion like relative advantage, complexity, compatibility and trial- ability have a drastic effect on the adoption of mobile banking in that country. He also indicated that the fear of perceived risk is also a main factor in adoption of mobile banking.

Laforet and Li (2005) have done research on the consumer adoption behaviour of online and mobile banking in China. They concluded that the most important factors due to which the Chinese consumers hesitate to use mobile banking are their concern about the security of their money and low skill of computer use. Luran and Lin (2005) have stated in the conclusion of their research on adoption of mobile banking in Taiwan that for the people of Taiwan the main important factors are Perceived self-efficacy, cost of the service trustworthiness easiness of use. They used the Extended TAM model in this research.

Amin et al. (2008) has suggested that the main determinants factors for the adoption of mobile banking in Malaysia are perceived usefulness, perceived ease of use, perceived
credibility and beside these the awareness of mobile banking and normative pressure are significant factors in accepting the mobile banking. Laukkanen & Pasanen (2008) have conducted a study on the mobile banking adoption in Finland and their finding says that education, occupation, household income, and size of the household have no concern with the adoption of mobile banking. They founded differentiating variable were age and gender in this study.

Yang (2009) has selected 178 students selected from a university in South Taiwan to know the adoption factors as well as the resistance factors of mobile banking and he said that the students prefer to adopt the mobile banking because of it is convenience low cost and meets one’s personal needs on other hand the resistance factors mentioned by them were concern on security and the connection fee for mobile banking.

Puschel et al. (2010) have studied the consumer’s behaviour about the adoption of mobile banking in Brazil. The conclusion of their study was that compatibility with life style is the basic factor for the consumers of Brazil which should be taken in account by the banks before lunching mobile banking services to them.

Cruz et al. (2010) have also studied in the Brazil for the same purpose and they noted that cost barrier and perceived are the main factors due to which they reject the use of mobile banking while other responsible resistance factors are unsuitable device, complexity, and lack of information.

Tommi Laukkanen, Vesa Kiviniemi (2010) have conducted a research on the role of information in the use of mobile banking resistance and the output of the study was that the proper information and guideline provided by the bank to the customers about the mobile banking have a great effect on minimizing the usage barrier. Natarajan et al. 2010) they have conducted research in India and they found that the main criteria for the Indians people to adopt the mobile banking are perceived risk, benefits, and their requirements.

Koenig-Lewis et al. (2010) have conducted research on young consumers in Germany and the result of the study showed that compatibility, perceived usefulness, and risk are important factors for the adoption of m-banking services. Compatibility was identified as an important antecedent for perceived ease of use, perceived usefulness and credibility. Creating Credibility and trust by the mobile banking companies are crucial to reduce the overall perceived risk of mobile banking.

Sripalawat et al.(2011) They have done Research in Thailand and used TAM Technology acceptance Model and TPB thorey of Planned Behaviour in this research and they concluded that the subjective norm is the most significant factor in the adoption of mobile banking while the following factors were perceived usefulness and self-efficacy respectively in this study.

Dasgupta et al. (2011) they used TAM model on the students of a well-known university of India to know the factors responsible for mobile banking adoption and they suggested that Perceived usefulness, easy-of-use, image, value self-efficacy and credibility are the important factors for mobile banking adoption in India. Akturan and Tezcan (2012) have used ( TAM ) Technology acceptance model to have a depth knowledge about the intention of the Turkish youth for the use of mobile banking. The research concluded that attitude was the major determinant of mobile banking adoption intention in the youth.
Fasial Iddriss (2013) have conducted a study in Ghana to know the main obstacles factors in the adoption of mobile banking and the result shows that lack of requires knowledge and learning is the 1st main obstacle due to which the people of Ghana avoid mobile banking while the addition cost was the 2nd reason which is hindrance in the adoption of mobile banking and the 3rd cause due which they avoid from mobile banking is the poor quality of the telecommunication network.

**METHODOLOGY**

A qualitative approach has been adopted to reach in depth the factors which can influence the adoption of mobile banking. We expect that this descriptive approach will provide preliminary insights to understand mobile banking adoption and this will help the managers of the banks to keep in view all these influential factors while taking managerial decision about the mobile banking services.

The data for our research was collected from conducting interview from the focus group. Focus group interview is social oriented by nature and the data collected through social interaction is deep and more informative (Thomas, MacMillan, McColl et al.1995). The discussion in focus group is in a friendly and relaxed atmosphere which can stimulate the expression of differing point of views and opinion (Marshall and Rossman, 2010). Focus group interview provides an opportunity to the moderator to know the underlying motives which guide a person attitude that might be ignored in the literature. (Kumar, Krishna 1987)

We have conducting the interview for this paper from two different focus group in two different sessions. The criteria for the members of the focus group was that they must have own mobile and should have bank account. In the first group there were 8 participants four of them were males while the four were females. All of the participants in the group have mobile banking facility from their respective banks. The number of respondents in the 2nd group was six, four of them were male while 2 of them were females they have the smart phones and also have the bank accounts but they were not user of mobile banking and they have no intention to get subscription for mobile banking services.

The interview for each focus group lasted for one hour. We recorded the interview with their permission so that we do not miss any point during the talk with the respondents. The questions were open ended and respondents were encouraged to express their own point of view that may be arising in his/ her mind during the interview. The interview started with the introduction of the topic its objectives rights of the respondents. Participants were asked question about their back ground education age their hobbies lifestyle and general interest so that they feel relax and then the real questions were started.

**FINDINGS**

**Perceived Ease-of-Use**

The expectation of the customers was that they will prefer to use the mobile banking services if its operation is easy and effortless. The base of the TAM model by (Davis Jr, Fred D. 1986) also is on this factor that customer will prefer to adopt a new technology if he expects that the use of this new technology will be simple and easy for them. One interviewee told that “I used to computer and it is very easy for me to type my account no for doing any
transactions from the net but for mobile I have to search and press the key one by one and if you make any mistake then you will have to start the whole process from the beginning.

It is compulsory for the subscription of the mobile banking to maintain an online banking active and if you do not use the mobile banking services for a specific period of time then the bank will deactivate your subscription and then for reactivating of the online services you will to go a long process, and this is an obstacle for the customers to adopt the mobile banking.

**Perceived Relative Advantage**

Relative advantage is defined the degree to which an innovation is consider more beneficial and helpful then it predecessor. (More & Benbasat 1991). The point view of the focus group was that the mobile banking is more beneficial than the banking channels. If you have mobile banking facility then it means you have access to your money at any time any place. For counter banking dealing you will have to go to the branch office and stand in the queue for long time. For internet banking you should have the computer and internet connection so this is also not possible for an account holder to has access to the net and pc any time anywhere only the mobile banking is the only way through which you can do transaction anywhere any time.

The mobile banking has some limitation also due to which the customers hesitate to get subscription for the mobile banking services. The limitation mentioned by the group in their conversation were small display, no mobile signals everywhere, slow speed, short battery special mobile handset low memory etc. One of the respondent said “while you do transactions via net banking you can engage yourself with other activities also at the same time but in mobile banking you will stuck with that transaction and cannot do anything.

**Perceived Risk**

it is a natural phenomenon that the use of new and innovative technology creates doubts in the mind of users and they think it a risky one. The use of mobile for banking purpose is also a new technology so there are doubts in the minds of the customers about it. They participants of the group expressed the following expected risk in mobile banking.

a. Loss of mobile: if you lose your mobile and if someone knows your pin code then he can make transaction and miss use your fund.

b. Lack of transaction record: if you make transaction from account via mobile bank then you do not have any documentary proof for it and absentee of documentary evidence may create confusion in the future.

c. Issue of mistake: if you make any mistake while doing the transaction then usually it is irrecoverable and this creates problems for account holder. I will not use the mobile banking as if I press the wrong button and make the payment to a wrong person then will be a big problem.

d. Identification: The respondents in the group also raise the issue of the identification of the person to whom you get the amount transfer to your account. You will get only notification that your account has been credited with such amount but does not provide the identity of the person who sends you the money.
Awareness and Knowledge

The presence of a product in the market will not attract the customers unless and until it is backed by the support of advertising. If a bank has started mobile banking then it should advertising the same on different media to bring awareness among the people. They should explain the features of the services in an attractive and simple way so the common person easily perceives the same. They should demonstrate in advertising how to do different transaction through mobile phone. It was felt in the focus group interview that most of the participants want to avail this facility but due to lack of know how about the mobile banking they hesitate to avail the mobile banking service facility. Most of the people in Pakistan are living in rural area and they are mostly illiterate people so it is necessary for the banks to advertise in a proper way about the mobile banking service and its operation.

Past Experience

The past experience of the customers also has a great effect on the intention to adopt a particular service or not. This factor was also exposed by (Wang, Harris, & Patterson, 2012) on the adoption of self-service technology. A good and pleasant experience will motivate the customers to use and continue the mobile banking service while a bad and unpleasant past practice will have a bad effect also on the minds of the customers. The following statements of two respondents will clear this concept.

a. Last week there was strike in the city. All the roads were closed for traffic and it was the last day for deposit of examination fee of my kid. It was a matter of his career and delay in the fee means that he will not be able to sit in the examination. This was a critical situation I did not know what to do.? Then I came to a friend of mine and tell him the situation he smiled and said no problem he asked me the required particulars put in his mobile and then said after some time ok your kid fee has been deposited. I was astonished to hear this he said I did your kid payment via mobile banking and this proved a miracle for me at that time then I decided to get subscription of mobile banking for myself.

b. I reserved one ticket from Peshawar to Karachi and I want to make the payment via mobile banking service. I keyed all the needed information and it was in loading mode after fifteen minutes I did not received any SMS about the payment then I refreshed and put all the information again this time the message came with the text (your transaction was completely successful) but when I called PIA office for confirmation they told me you have paid two times.

Cost of the Transaction

The cost of mobile banking transaction is lower than the traditional banking channel. This feature of mobile banking attracts more and more customers to adopt the mobile banking services. The below statement of respondent will clear this concept about mobile banking.

The branch of my bank is far away from my home. If I want to send money or deposit my utility bill then this will be costly and time consuming for me. As I will hire the taxi to reach the bank then I will stand in queue for long hours and if the money is below or above a certain amount then I have also pay extra charges beside the normal charges, while in mobile banking this is not an issue.
DISCUSSION AND IMPLICATIONS

The main objective of this paper is to know the reasons behind the adoption of mobile banking and the expected obstacles. The results suggest that Perceived Ease-of-use, Perceived Relative advantage, Perceived Risk, Awareness and knowledge, Past Experience and Cost of the transaction are the main factors responsible for the adoption of mobile banking.

CONCLUSION

The bank should provide fully security to the mobile banking transactions as the customers’ avoid using mobile banking services due to fear that their account may be hacked by hackers and they will use their money. The use of mobile transaction should be simple and easy so that every person can use the same without any obstacles in its operation. The bank should advertise about the mobile banking services and its features through different channel of media so the public can get awareness about it.

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